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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/029,006	12/28/2001	Hitoshi Shindo	461-43	3756
23117	7590	11/29/2004		
NIXON & VANDERHYE, PC 1100 N GLEBE ROAD 8TH FLOOR ARLINGTON, VA 22201-4714			EXAMINER VIJAYAKUMAR, KALLAMBELLA M	
			ART UNIT	PAPER NUMBER
			1751	

DATE MAILED: 11/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/029,006

**Applicant(s)**

SHINDO ET AL.

D-5

**Examiner**

Kallambella Vijayakumar

**Art Unit**

1751

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 July 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,4,5,14-18 and 27-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,5,14,16,18,27,29 and 30 is/are rejected.
- 7) ☒ Claim(s) 4,15,17,28 and 31-32 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 7/19/2004
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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*Detailed Action*

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- Claims 1, 4-5, 14-18, 27-32 are currently pending with the application.
- The examiner has considered the information disclosure statement (IDS) submitted on 07/19/2004.

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*Claim Rejections - 35 USC § 112*

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The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 15, 27 and 30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "substantially the same composition" in claims 1, 15, 27 and 30 is a relative term, which renders the claim indefinite. The term "substantially same composition" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It is not clear whether the term "substantially same composition" refers to a crystal structure or the stoichiometric ratio of the components or both the parameters.

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*Claim Rejections - 35 USC § 103*

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

The use of phrase “for constituting electrode layers.....and baking the laminate” in the claims-1, 14, 27 and 30 have not been treated with patentability. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

The examiner construes this language as “Intended Use” and not treated with merits for patentability.

1. Claims 1 and 5 are rejected under 35 U.S.C. 103(a) as being obvious over Nakatani et al (JP 03-048415) in view of Nishimura et al (JP 07-086745).

Nakatani et al teach an inner electrode paste composition comprising *80.0-99.0 wt.% of CuO* powder, *0.5-10wt.%* of at least one or more types selected from MgO, *Nb2O5*, Ta2O5, NiO, *TiO2*, *WO3*, CaO, ZnO and *0.5-10.0wt. % of PbO* dispersed in an organic vehicle containing at least an organic binder and a solvent, and making a laminated ceramic capacitor containing lead composite perovskite compound as a dielectric using the paste (Abstract). The formation of a perovskite upon heat treating PbO with Nb2O5, Ta2O5, TiO2, and/or WO3 would be obvious as shown by Nishimura et al (Abstract), wherein PbO and the metal oxides would meet the limitation of a co-operative material in instant claim-1. The ratio of the PbO and the additive oxide in the composition would meet the limitations of instant claim-5. Office personnel are to give claims their broadest reasonable interpretation in light of the supporting disclosure. In re Morris, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997).

2. Claims 14, 16, 18, 27 and 29 are rejected under 35 U.S.C. 103(a) as being obvious over Tai et al (JP 10-144,559) in view of Kondo et al (US 4,837,408).

Tai et al disclose the composition of an electrode paste comprising powders of nickel, copper and copper oxide as powder for conduction, and barium titanate as anti-reducing ceramic oxide powder, wherein the amount of the ceramic oxide powder in the paste was set to be 15-70 vol % as a desirable value (Abstract) based on the densities of the powders. The 15-vol% of the anti-reducing oxide in the paste composition would meet the weight ratios in the instant claims 18

and 29. Barium titanate would meet the limitation of co-operative material in instant claims 14 and 27.

Tai et al differ from the applicants wherein the principal conductive component comprised nickel containing copper, wherein the copper was mixed in nickel powder to be greater than 0wt.% and lower than or equal to 5wt.%, and copper oxide was mixed to be greater than 0wt.% and lower than or equal to 6wt.%.

Kondo et al teach forming electrode paste comprising of Cu and CuO by varying the CuO content from 80-90% by wt and the copper content in the range of 20-10 % by wt of the total conductive copper content, and its benefits in forming cheaper connections with good air-tightness in the laminates (Col-3, Exaple-1, Table-1).

It would have been obvious to a person of ordinary skill in the art to make obvious modifications to the electrode paste compositions of Tai et al, by optionally choosing CuO and or CuO/Cu as the conductive components and vary the ratio CuO: Cu per the teachings of Kondo et al, to benefit from obvious cheaper cost compared to the noble metals and improved bonding between the laminated layers and with lower cracking/peel-off as evidenced by with improved air-tightness, and further optimize by varying the content of the ceramic oxide powder per the teachings of Tai et al, by choice of design to benefit from lower shrinkage, because both the teachings are in the analogous art and Tai et al specifically teach the benefits of addition of Cu and CuO and variation of the anti-reducing material in the electrode paste composition, and with the expectation of reasonable success in obviously arriving at the limitations of the instant claims by the applicants,

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***Double Patenting***

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The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thornton*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1, 5, 27 and 29 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 16-17 and 21-24 of U.S. Patent No. 6,690,571. Although the conflicting claims are not identical, they are not patentably distinct from each other because both the instant application and the patent are drawn to electrode paste comprising of almost identical composition.

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***Allowable Subject Matter***

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Claims 4, 17 and 28, are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and the double patenting rejections as cited in the rejections under Double Patenting.

Claim 15, 31-32 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

*Conclusion*

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kallambella Vijayakumar whose telephone number is 571-272-1324. The examiner can normally be reached on M-Th, 07.00 - 16.30 hrs, Alt. Fri: 07.00-15.30 hrs.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Yogendra Gupta can be reached on 571-272-1316. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

kmv  
November 22, 2004

  
Mark Kopec  
Primary Examiner